Advanced Chemical Technology, Inc.

R-551

SAFETY DATA SHEET

Version 1.0
Effective Date: 06/01/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	R-551 Ceric sulfate solution 1.0 Normal
Description:	Test Reagent
Suggested Use:	Industrial Water Treatment
Restrictions on Use:	Do not mix with other industrial chemicals.
Supplier:	Advanced Chemical Technology, Inc. 8728 Utica Avenue Rancho Cucamonga, CA 91730
Telephone:	1-909-980-4556 or 1-800-527-9607
Fax:	1-909-980-9366
Emergency Phone:	1-800-255-3924 (CHEMTEL)

2. HAZARDS IDENTIFICATION

Classification

GHS Classification: Serious Eye Irritation (Category 2A)

GHS Label Elements

Pictogram:

Signal Word: Warning

Hazard Statements:
H316: Causes mild skin irritation
H319: Causes serious eye irritation

Precautionary Statements:
P264: Wash hands thoroughly after handling.
P 273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention/advice.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P501 - Dispose of contents/container to comply with local, state and federal regulations.

HMIS Classification:

Health Hazard:	2
Flammability:	0
Physical Hazards:	0

NFPA Rating:

Health Hazard:	2
Fire:	0
Reactivity Hazard:	0

Potential Health Effects

Inhalation: May cause respiratory irritation.

Skin:	Contact with skin may cause redness or irritation.
Eyes:	May cause irritation, redness and pain.
Ingestion:	May be harmful if swallowed. May cause gastric disturbances, colic, constipation, or diarrhea.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Concentration
Ceric sulfate	34720-17-7	Proprietary
Sulfuric acid	7664-93-9	Proprietary

Synonyms: Not Established

4. FIRST AID MEASURES

If Inhaled:	Remove person to fresh air, loosen tight clothing. Obtain medical attention if breathing is difficult.
Skin Contact:	Flush all affected areas with large amounts of water for at least 15 minutes.
Eye Contact:	Flush eyes with plenty of water for at least 15 minutes and consult a physician. Remove contact lenses if able to do so.
If Ingested:	Do NOT induce vomiting unless instructed to do so by a physician. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Flammability Overview:	Contact with common metals may produce hydrogen, which forms explosive mixture with air.
Flash Point:	Not Applicable
Extinguishing Media:	Use water-spray, foam, dry chemical, or carbon dioxide.
Special Protective Equipment for Firefighters:	Wear a self-contained breathing apparatus (SCBA) for firefighting if necessary.
Hazardous Combustion Products:	Fumes of hydrogen chloride and/or chlorine.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Use personal protective equipment. Avoid breathing vapors, mist, or gas. Always ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Prevent from entering drains and waterways. Discharge into the environment must be avoided.
Containment and Clean Up:	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. If assistance is needed call CHEMTEL or emergency services.

7. HANDLING AND STORAGE

Safe Handling:	Use personal protective equipment. Avoid breathing vapors, mist, or gas. Always ensure adequate ventilation.
Safe Storage:	Keep containers tightly closed in a dry well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Component	CAS Number	Exposure Limit	Basis
Ceric sulfate	34720-17-7	Not Established	ACGIH Threshold Value (TWA) (mg/m^3)
		Not Established	OSHA PEL (TWA) (mg/m^3)
		Not Established	TLV Units
Sulfuric acid	7664-93-9	Not Established	ACGIH Threshold Value (TWA) (mg/m^3)
		Not Established	OSHA PEL (TWA) (mg/m^3)
		1 mg / M^3	TLV Units

Personal Protective Equipment

Eye Protection:	Wear tightly fitting safety goggles or safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH. Have eye-wash stations available where eye contact can occur.
Hand Protection:	Handle with chemical-resistant gloves. Gloves must be inspected prior to use. Dispose of contaminated gloves. Wash and dry hands after use.
Skin Protection:	Protect skin by wearing pants, close toe shoes and long sleeves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Safety showers should be located in the work area where skin contact can occur.
Respiratory Protection:	Where risk assessment shows air-purifying respirators are appropriate, use a NIOSH-approved full-face respirator with appropriate cartridges. For oxygen deficient atmospheres, use a NIOSH approved air-supplied respirator. Respiratory protection may be needed for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA 29 CFR 1910.134.
General Controls:	Always ensure adequate ventilation and that working areas contain safety showers and eye wash stations. Handle material in accordance with good industrial hygiene and safety practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Clear orange
Odor:	Not Established
Odor Threshold:	Not Established
pH:	Not Established
Melting/Freezing Point:	Not Established

Boiling Point:	212 ° F
Flash Point:	Not Established
Evaporation Rate:	Not Established
Flammability (solid, gas):	Not Established
Flammability/Explosion Limits:	Not Established
Vapor Pressure @ 20°C:	Not Established
Vapor Density:	Not Established
Specific Gravity:	Not Established
Density:	Not Established
Solubility in Water:	Infinite
Partition Coefficient:	Not Established
Autoignition Temperature:	Not Established
Decomposition Temperature:	Not Established
Viscosity:	Same as water

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended use and storage conditions.
Conditions and Materials to Avoid:	Temperatures over 170C. Do not mix with other industrial chemicals. Bases, oxidizers, reducing agents, metal powders, carbides, acetic anhydrides, chlorosulfonic acid.
Hazardous Decomposition Products:	Fumes of hydrogen chloride and/or chlorine.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	CAS Number	Test	Toxicity
Ceric sulfate	34720-17-7	Oral LD50 (Mouse)	Not Established
		Skin	Not Established
		Inhalation LC50-1H (Rat)	Not Established
Sulfuric acid	7664-93-9	Oral LD50 (Mouse)	Not Established
		Skin	Not Established
		Inhalation LC50-1H (Rat)	Not Established

Potential Health Effects

Inhalation:	Corrosive to mucous membranes of upper respiratory tract. Irritation of nose and throat, swelling of lung tissue resulting in difficult breathing, may cause systemic toxic effects.
Skin:	Causes irritation, redness, pain, and may result in deep burns and scarring.
Eyes:	Contact can cause pain, blurred vision, redness, and severe tissue burns.
Ingestion:	Corrosive to digestive tract causing burns of mouth, throat, and stomach. Can cause sore t throat, vomiting, diarrhea, and death.
Signs and Symptoms of Exposure:	Not Established
Chronic Effects of Long-term Exposure:	Any person with pre-disposition to sensitivity may be more susceptible to substance effects.

Carcinogenicity: No component of this product at levels greater than 0.1% is identified as carcinogenic by IARC, ACGIH, or OSHA.

12. ECOLOGICAL INFORMATION

Acute Ecotoxicity

Component	CAS Number	Organism	Ecotoxicity
Ceric sulfate	34720-17-7	Not Established	Not Established
Sulfuric acid	7664-93-9	Not Established	Not Established

Ecological Effects

Persistence and Degradability: Not Established

Bioaccumulation Potential: Not expected to bio-accumulate

Mobility in Soil: Not Established

Other Adverse Effects: Not Established

13. DISPOSAL CONSIDERATIONS

Disposal: Surplus and non-recyclable material should be treated as hazardous waste and be disposed of by a licensed disposal company. Material should be disposed in accordance with all local, state, and federal regulations. Regulations vary by region. Do not release into sewers or waterways.

Contaminated Packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT Information

Proper Shipping Name: Corrosive liquid, acidic, Inorganic, n.o.s. (sulfuric acid)
UN Number: 3264
Hazard Class: 8
Packing Group: II

Reportable Quantity (RQ): Sulfuric Acid: 1, 000 lb.

Marine Pollutant: Not Established

Note:

15. REGULATORY INFORMATION

US Federal

SARA 302 Components: Not Established
SARA 311/312 Hazards: Not Established

SARA 313 Components:	This product does not contain a Section 313 listed toxic chemical subject to release reporting requirements.
TSCA Inventory:	All chemical components are listed on TSCA Inventory.

European Union

EC Inventory:	Not Established

State Regulations

CA Prop 65:	This product does not contain chemicals currently on the California list known carcinogens and/or reproductive toxins.

16. OTHER INFORMATION

SDS Version:	1.0
Revision Date:	06/01/2015
Disclaimer:	The information contained in this document was carefully compiled and is believed to be accurate. The information represents the present state of our knowledge and is applicable to the product with the regard to appropriate safety precautions. However, it does not represent any guarantee of the properties of the product. Advanced Chemical Technology, Inc. shall not be held liable for any damages resulting from handling or from contact with the above product. It is the responsibility of the purchaser to determine the suitability of the product for their particular purposes. Nothing contained herein shall be construed to be a recommendation to use, or as a license to operate under, or to infringe any existing patents. For product information call Advanced Chemical Technology, Inc., 1-909-980-4556.